for the system; and 950 access or other MClm required access to IEC as requested through appropriate trunk interfaces.

7.3 ISDN

7.3.1 ISDN is defined in two variations. The first variation is BI. BI consists of two 64Kbps Bearer (B) Channels and one 16 Kbps Data (D) Channel. The second variation is P.I. P.I. consists of 23 B (64Kbps) Channels and one 64Kbps D Channel. Both BI and P.I. B Channels may be used for voice, C.D. or PSD. The BI D Channel may be used for call related signaling, non-call related signaling or packet switched data. The P.I. D Channel may be used for call related signaling.

7.3.2 Unbundled Switching Requirements — ISDN

7.3.2.3 NYNEX shall offer unbundled Local Switching providing ISDN that at a minimum:

7.3.2.1.1 Provides integrated Packet handling capabilities within the switching entity and access to external packet networks in accordance with MClm routing requirements;

7.3.2.1.2 Allows for full 2B+D Channel functionality for BI;

7.3.2.1.3 Allows for full 23B+D Channel functionality for P.I.;

7.3.2.1.4 Each B Channel shall allow for voice, 64 Kbps C.D., and PSD of 128 logical channels at nominal speeds of 19 Kbps throughput of each logical channel up to the total capacity of the B Channel;

7.3.2.1.5 Each B Channel shall provide capabilities for alternate voice and data on a per call basis;

7.3.2.1.6 The BI D Channel shall allow for call associated signaling, non-call associated signaling and PSD of 16 logical channels at minimum speeds of 9.6 Kbps throughput of each logical channel up to the total capacity of the D channel; and

7.3.2.1.7 The P.I. D Channel shall allow for call associated signaling.

7.3.3 Interface Requirements — ISDN

7.3.3.1 NYNEX shall where technically feasible provide the BI U interface using 2-wire copper loops in accordance with TR-NWT-000393, January 1991, Generic Requirements for ISDN Basic Access Digital Subscriber Lines.

7.3.3.2 NYNEX shall provide the BI interface using Digital Subscriber Loops adhering to Bellcore TR-NWT-303 specifications to interconnect Digital Loop Carriers.

7.3.3.3 NYNEX shall offer where such capabilities are deployed within the NYNEX switch PSD interfaces adhering to the X.25, X.75 and X.75' ANSI and Bellcore requirements for use with unbundled switching in parity with NYNEX's retail services.

7.3.3.4 NYNEX shall where such capabilities are technically feasible and deployed within the NYNEX network offer PSD trunk interfaces operating at 56 Kbps.

Section 8 Operator Systems

See Attachment VIII, Section 7.1.2 "Directory Assistance Service" and Section 7.1.3 "Operator Services."

Section 9 Common Transport

9.1 Definition:

Common Transport is an interoffice transmission path between NYNEX Network Elements (illustrated in Figure 2) shared by carriers. Where NYNEX Network Elements are connected by intra-office wiring, such wiring is provided as a part of the Network Elements and is not Common Transport. NYNEX shall offer Common Transport as of the Effective Date of the Agreement, at DS0, DS1, DS3, STS-1 or higher transmission bit rates. Common Transport consists of NYNEX inter-office transport rate facilities and is distinct and separate from local switching.
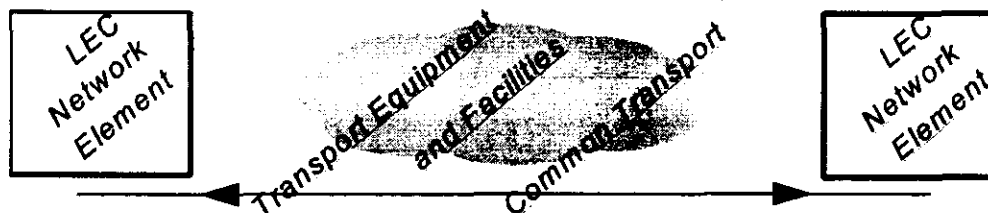

Figure 2

9.2 Technical Requirements

9.2.1 NYNEX shall be responsible for the engineering, provisioning, and maintenance of the underlying equipment and facilities that are used when it provides Common Transport.

9.2.2 At a minimum, where technically feasible Common Transport shall meet all of the relevant (for the transport technology being used) and applicable requirements set forth in Section 18.8.

Section 10. Dedicated Transport

10.1 Definition:

10.1.1 Dedicated Transport is an interoffice transmission path between designated locations to which a single carrier is granted exclusive use. Such locations may include NYNEX central offices or other locations, MCIm network components, other carrier network components, or subscriber premises. Dedicated Transport can be provided on either a switched or non-switched basis as depicted below in Figure 3.

Figure 3

10.1.2 NYNEX shall offer unbundled Dedicated Transport wherever technically feasible in each of the following manners:

10.1.2.1 As capacity on a shared facility (i.e., such as providing a DS-1 dedicated transport channel on a DS-3 transmission facility).

10.1.2.2 As a circuit (e.g., DS1, DS3, STS-1) dedicated to MCIm.

10.1.2.3 As a system (i.e., the equipment and facilities used to provide Dedicated Transport such as SONET ring) dedicated to MCIm.

10.1.2.4 The ability to provide MCIm with unbundled dedicated transport using any of the models identified in Sections 10.1.2.1 through 10.1.2.3

above is dependent upon the specific deployed transmission facilities available at the NYNEX served location(s) requested by MCIm.

10.1.3 When unbundled Dedicated Transport is provided as a circuit or as capacity on a shared facility, it shall include and be operated in parity with NYNEX's normal operating practices (as appropriate):

10.1.3.1 Multiplexing functionality;

10.1.3.2 Grooming functionality; and

10.1.3.3 Redundant equipment and facilities necessary to support protection and restoration.

10.1.4 When unbundled Dedicated Transport is provided as a system it shall include suitable transmission facilities and equipment, operated in parity with NYNEX's normal operations practice as required, which may include:

10.1.4.1 Transmission equipment such as multiplexers, line terminating equipment, amplifiers, and regenerators;

10.1.4.2 Inter-office transmission facilities such as optical fiber, copper twisted pair, and coaxial cable;

10.1.4.3 Redundant equipment and facilities necessary to support protection and restoration; and

10.1.4.4 Dedicated Transport will be provided wherever available with DCS functionality as a further unbundled +option. DCS is described below in Section 10.5.

10.2 Technical Requirements

Section 18.9 sets forth the technical requirements for unbundled Dedicated Transport. In addition, NYNEX shall provide Dedicated Transport as set forth in this Section 10.2.

10.2.1 When NYNEX provides Dedicated Transport as a circuit or a system, the entire designated transmission circuit or system (e.g., DS1, DS3, STS-1) shall be dedicated to MCIm designated traffic.

10.2.2 NYNEX shall, where available, offer Dedicated Transport using currently available technologies as available and deployed in NYNEX's network including, but not limited to, DS1 and DS3 transport systems, SONET (or SDH) Bi-directional Line Switched Rings, SONET (or SDH) Unidirectional Path Switched Rings, and SONET (or SDH) point-to-point transport systems (including linear

add-drop systems), at all available transmission bit rates, to the extent technically feasible.

10.2.3 To the extent transmission facilities are installed, deployed, and available to effect such diversification, when requested by MCIm, Dedicated Transport shall provide physical diversity. Physical diversity means that two circuits are provisioned in such a way that minimizes the possibility that a single failure of facilities or equipment will cause a failure on both circuits.

10.2.4 When physical diversity is requested by MCIm, NYNEX shall provide the maximum degree of protection feasible by maintaining physical separation between transmission paths for all facilities and equipment (unless otherwise agreed by MCIm).

10.2.5 NYNEX shall provide, for an appropriate price, real time and continuous remote access to performance monitoring and alarm data affecting, or potentially affecting, MCIm's traffic, if and when it is technically feasible to partition such data for MCIm.

10.2.6 NYNEX shall offer the following interface transmission rates for unbundled Dedicated Transport at all locations where suitably equipped transmission facilities and equipment are available:

>   10.2.6.1 DS1 (ESF - ESF/B8ZS, D4, and unframed applications shall be provided);
>
>   10.2.6.2 DS3 (C-bit Parity, M13, and unframed applications shall be provided);
>
>   10.2.6.3 SONET standard interface rates in accordance with ANSI T1.105 and ANSI T1.105.07 and physical interfaces per ANSI T1.106.06 (including referenced interfaces). In particular, VT1.5 based STS-1s will be the interface at an MCIm service node; and
>
>   10.2.6.4 SDH Standard interface rates in accordance with ITU Recommendation G.707 and PDH rates per ITU Recommendation G.704.

10.2.7 NYNEX shall provide technically appropriate cross-office wiring up to a suitable POT between unbundled Dedicated Transport and MCIm designated equipment. NYNEX shall provide the following equipment for the physical POT:

>   10.2.7.1 DSX1 for DS1s or VT1.5s;
>
>   10.2.7.2 DSX3 for DS3s or STS-1s;

MCIm-NYNEX NEW YORK INTERCONNECTION AGREEMENT   **III - 25**
(Last Revised 12/17/98: Amendment Number 2)

10.2.7.3 LGX for optical signals (e.g., OC-3 and OC-12); and

10.2.7.4 POT bay terminals for DS-0 or voice frequency termination for voice grade 56Kbps and 64Kbps transmission rates.

10.2.8 NYNEX shall provide physical access to the POT for personnel designated by MCIm (for testing, facility interconnection, and other purposes designated by MCIm) 24 hours a day, 7 days a week

10.2.9 For Dedicated Transport provided as a system, NYNEX shall provide the unbundled system (including, but not limited to, facility routing and termination points) according to MCIm specifications wherever technically feasible.

10.2.10 Upon MCIm's request, NYNEX shall provide MCIm with electronic provisioning capabilities for the MCIm specified Dedicated Transport wherever technically feasible.

10.2.11 NYNEX shall offer unbundled Dedicated Transport together with and separately from DCS wherever DCS equipment is available.

10.3 Technical Requirements for Unbundled Dedicated Transport Using SONET Technology.

This Section 10.3 sets forth additional technical requirements for unbundled Dedicated Transport using SONET technology including rings, point-to-point systems, and linear add-drop systems.

10.3.1 All SONET Dedicated Transport provided as a system shall, wherever technically feasible and where deployed in the NYNEX network:

10.3.1.1 Be synchronized from both a primary and secondary Stratum 1 level timing source.

10.3.1.2 In recognition that the inter-vendor equipment compatibility is beyond MCIm and NYNEX's individual and collective ability to control (Reference: Reports of the ATIS SIF), provide SONET standard interfaces which properly interwork with SONET standard equipment from other vendors. This includes, but is not limited to, SONET standard Section, Line and Path performance monitoring, maintenance signals, alarms, and data channels.

10.3.1.3 Provide element manager mediated secure access to the DCC supporting that particular unbundled system. The unbundled SONET transport system shall be capable of routing DCC messages between MCIm and the unbundled SONET network components connected to the

Dedicated Transport. For example, if MCIm leases an unbundled SONET ring from NYNEX, that ring shall support DCC message routing between MCIm and SONET network components connected to the ring via the network element manager supporting that facility.

10.3.1.4 Support the following performance requirements for each circuit (STS-1, DS1, DS3, etc.):

> 10.3.1.4.1 No more than ten (10) Errored Seconds Per Day (Errored Seconds are defined in the technical reference at Section 18.9(e)); and

> 10.3.1.4.2 No more than one (1) Severely Errored Second Per Day (Severely Errored Seconds are defined in the technical reference at Section 18.9(e)).

10.3.2 SONET rings shall:

10.3.2.1 Be provisioned on physically diverse fiber optic cables (including separate building entrances where available and diversely routed intraoffice wiring). "Diversely routed" shall be interpreted as the maximum degree of protection feasible by maintaining physical separation between transmission paths, unless otherwise agreed by MCIm. Wherever technically feasible and suitable equipment is deployed in the NYNEX network, unbundled SONET rings/transport will be provided in a manner to:

10.3.2.2 Support dual ring interworking per SONET Standards.

10.3.2.3 Provide the necessary redundancy in optics, electronics, and transmission paths (including intra-office wiring) where technically feasible such that it will minimize the possibility that any single failure will cause a service interruption.

10.3.2.4 Provide the ability to disable ring protection switching at MCIm's direction (selective protection lock-out). This requirement applies to line switched rings only.

10.3.2.5 **[INTENTIONALLY LEFT BLANK]**

10.3.2.6 Provide 50 millisecond restoration unless a ring protection delay is set to accommodate dual ring interworking schemes.

10.3.2.7 Have settable ring protection switching thresholds that shall be set in accordance with industry norms and as set for similarly deployed equipment in the NYNEX network.

10.3.2.8 Provide revertive protection switching with a settable wait to restore delay with a default setting of five (5) minutes. This requirement applies to line switched rings only.

10.3.2.9 Provide non-revertive protection switching. This requirement applies to path switched rings only.

10.3.2.10 Adhere to the following availability requirements, where availability is defined in the technical references set forth in Section 18.9(e).

10.3.2.10.1 No more than 0.25 minutes of unavailability per month; and

10.3.2.10.2 No more than 0.5 minutes of unavailability per year.

10.4 At a minimum, unbundled Dedicated Transport shall meet wherever technically feasible each of the requirements set forth in Sections 18.8 and 18.9. In all cases, unbundled Dedicated Transport will be provided in operational parity with NYNEX's own use of the facilities and equipment similarly utilized in the provision of transport itself.

10.5 **DCS**

10.5.1 **Definition:**

10.5.1.1 DCS is an optional Network Element that will be made available wherever feasible for use with unbundled transport whose function is to provide automated cross connection of DS0 or higher transmission bit rate digital channels within physical interface facilities. Types of DCSs include, but are not limited to, DCS 1/0s, DCS 3/1s, and DCS 3/3s, where the nomenclature 1/0 denotes interfaces typically at the DS1 rate or greater with cross-connection typically at the DS0 rate. This same nomenclature, at the appropriate rate substitution, extends to the other types of DCSs specifically cited as 3/1 and 3/3. Types of DCSs that cross-connect STS-1 s or other SONET signals (e.g., STS-3) are also DCSs, although not denoted by this same type of nomenclature. DCS may provide the functionality of more than one of the aforementioned DCS types (e.g., DCS 3/3/1 which combines functionality of DCS 3/3 and DCS 3/1). For such DCSs, the requirements will be, at least, the aggregation of requirements on the "component" DCSs.

10.5.1.2 In locations where automated cross connection capability does not exist, non-automated cross-connect will be defined as the combination of the functionality provided by a DSX or LGX patch panels and D4 channel banks or other DS0 and above multiplexing equipment used to provide the function of a manual cross connection.

10.5.1.3 Interconnection between unbundled transport elements that may be terminated on a DSX or LGX, to a switch, another cross-connect, or other service platform device, is available as part of the unbundled DCS offering to the extent technically feasible and where suitable equipment and facilities are available.

10.6 DCS Technical Requirements

Section 18.10 sets forth the technical requirements for unbundled access to the DCS. NYNEX shall provide unbundled access to the DCS in accordance with this Section 10.6 to the extent technically feasible and where suitable equipment and facilities are deployed and available in the NYNEX network.

10.6.1 Unbundled DCS shall provide completed end-to-end cross connection of the channels designated by MCIm.

10.6.2 Unbundled DCS shall perform facility grooming, multipoint bridging, one-way broadcast, two-way broadcast, and facility test functions.

10.6.3 Unbundled DCS shall provide multiplexing, format conversion, signaling conversion, or other functions.

10.6.4 The end-to-end cross connection assignment shall be input to the underlying device used to provide unbundled DCS from an operator at a terminal or via an intermediate system. The cross connection assignment shall remain in effect whether or not the circuit is in use.

10.6.5 NYNEX shall continue to administer and maintain unbundled DCSs, including updates to the control software to current available releases in parity with its ongoing operations.

10.6.6 NYNEX shall provide various types of unbundled DCSs depending on facility and equipment availability and technical feasibility including:

10.6.6.1 DS0 cross-connects (typically termed DCS 1/0);

10.6.6.2 DS1/VT1.5 (Virtual Tributaries at the 1.5Mbps rate) cross-connects (typically termed DCS 3/1);

10.6.6.3 DS3 cross-connects (typically termed DCS 3/3);

10.6.6.4 STS-1 cross-connects; and

10.6.6.5 Other technically feasible cross-connects as requested by MClm.

10.6.7 NYNEX shall provide immediate and continuous configuration and reconfiguration of the channels between the physical interfaces (i.e., NYNEX shall establish the processes to implement cross connects on demand or, at MClm's option, permit MClm control of such configurations and reconfigurations) in accordance with industry reliability and security standards.

10.6.8 NYNEX shall provide scheduled configuration and reconfiguration of the channels between the physical interfaces (i.e., NYNEX shall establish the processes to implement cross connects on the schedule designated by MClm or, at MClm's option, permit MClm to control such configurations and reconfigurations) in accordance with industry reliability and security standards.

10.6.9 Wherever technically feasible, unbundled DCS shall continuously monitor protected circuit packs and redundant common equipment.

10.6.10 Wherever technically feasible, unbundled DCS shall automatically switch to a protection circuit pack on detection of a failure or degradation of normal operation.

10.6.11 The underlying equipment used to provide unbundled DCS shall be equipped with a redundant power supply or a battery back-up in parity with NYNEX's own use of DCS facilities and equipment.

10.6.12 NYNEX shall make available to MClm spare facilities and equipment necessary for provisioning repairs, and to meet MClm's maintenance standards as specified in the Provisioning and Maintenance sections.

10.6.13 NYNEX shall provide MClm with real time performance monitoring and alarm data, for an appropriate price, on the signals and the components of the underlying equipment used to provide DCS that actually impact or might impact MClm's services, if and when it is technically feasible to partition such data for MClm.

10.6.14 Wherever technically feasible, at MClm's option, NYNEX shall provide MClm with the ability to initiate non service-affecting tests on integrated equipment used to test the signals and the underlying equipment used to provide unbundled DCS, as well as other integrated functionality for routine testing and fault isolation.

10.6.15 Wherever technically feasible and suitable equipment is available, unbundled DCS shall provide SONET to asynchronous gateway functionality (e.g., STS-1 to DS1 or STS-1 to DS3).

10.6.16 Wherever technically feasible, unbundled DCS shall perform optical to electrical conversion where the underlying equipment used to provide unbundled DCS contains optical interfaces or terminations (e.g., Optical Carrier level 3, i.e., OC-3, interfaces on a DCS 3/1).

10.6.17 Wherever technically feasible, unbundled DCS shall have SONET ring terminal functionality where the underlying equipment used to provide DCS acts as a terminal on a SONET ring.

10.6.18 Wherever technically feasible, unbundled DCS shall provide multipoint bridging of multiple channels to other DCSs. MCIm may designate multipoint bridging to be one-way broadcast from a single master to multiple tributaries, or two-way broadcast between a single master and multiple tributaries.

10.6.19 Unbundled DCS shall multiplex lower speed channels onto a higher speed interface and demultiplex higher speed channels onto lower speed interfaces as designated by MCIm limited only by technical feasibility and the availability of suitable equipment and facilities.

10.7 Unbundled DCS Interface Requirements

This Section 10.7 sets forth the interface requirements for unbundled DCS to the extent technically feasible and where suitable equipment and facilities are deployed and available in the NYNEX network.

10.7.1 NYNEX shall provide physical interfaces on DS0, DS1, and VT1.5 channel cross-connect devices at the DS1 rate or higher. In all such cases, these interfaces shall be in compliance with applicable Bellcore, ANSI and ITU standards.

10.7.2 NYNEX shall provide physical interfaces on DS3 channel cross-connect devices at the DS3 rate or higher. In all such cases, if feasible these interfaces shall be in compliance with applicable Bellcore, ANSI and ITU standards.

10.7.3 NYNEX shall provide physical interfaces on STS-1 cross-connect devices at the OC-3 rate or higher. In all such cases, these interfaces shall be in compliance with applicable Bellcore, ANSI and ITU standards.

10.7.4 Interfaces on all other cross-connect devices shall be in compliance with applicable Bellcore, ANSI, and ITU standards.

10.8 Unbundled DCS shall, at a minimum and where technically feasible, meet all the relevant and applicable requirements set forth in Section 18.10.

Section 11 Signaling Link Transport

NYNEX will provide MCIm with unbundled Signaling Link Transport.

11.1 Definition:

Signaling Link Transport is a set of two or four dedicated 56 Kbps transmission paths between MCIm designated SPOI that provide appropriate physical diversity and a cross-connect at mutually agreed NYNEX STP sites.

11.2 Technical Requirements

11.2.1 Section 18.11 sets forth the technical references for Signaling Link Transport.

11.2.2 Signaling Link Transport shall consist of full duplex mode 56 Kbps transmission paths.

11.2.3 Of the various options available, Signaling Link Transport shall be provisioned with adequate physical diversity to be utilized in either of the following two ways:

11.2.3.1 As an "A-link" which is a connection between a switch and a home (STPS) pair; or

11.2.3.2 As a "D-link" which is a connection between two STP pairs in different company networks (e.g., between two STP pairs for two CLECs).

11.2.4 Signaling Link Transport shall consist of two or more signaling link layers as follows:

11.2.4.1 An A-link layer shall consist of two links.

11.2.4.2 A D-link layer shall consist of four links.

11.2.5 A signaling link layer shall satisfy a performance objective such that:

11.2.5.1 There shall be no more than two minutes down time per year for an A-link layer; and

11.2.5.2 There shall be negligible (less than two seconds) down time per year for a D-link layer.

MCIm-NYNEX NEW YORK INTERCONNECTION AGREEMENT   **III - 32**
(Last Revised 12/17/98: Amendment Number 2)

11.2.6 A signaling link layer shall satisfy interoffice and intraoffice diversity of facilities and equipment, such that:

11.2.6.1 No single failure of facilities or equipment causes the failure of both links in an A-link layer (i.e., the links should be provided on a minimum of two separate physical paths end-to-end); and

11.2.6.2 No two concurrent failures of facilities or equipment shall cause the failure of all four links in a D-link layer (i.e., the links should be provided on a minimum of three separate physical paths end-to-end).

11.2.7 Signaling link layers shall be ordered by MCIm in sufficient quantity such that the anticipated signaling traffic carried over the links is in keeping with mutually agreed engineering rules. Signaling link traffic will be reviewed on at least a monthly basis and, to the extent necessary, MCIm will place timely orders for additional capacity as indicated by the engineering rules.

11.3 Interface Requirements

11.3.1 There shall be a DS1 (1.544 Mbps) interface at the MCIm-designated SPOIs. Each 56 Kbps transmission path shall appear as a DS0 channel within the DS1 interface.

Section 12 Signaling Transfer Points (STPs)

NYNEX will provide MCIm with unbundled access to its STPs enabling MCIm to activate its own signaling link transport in lieu of NYNEX provided signaling link transport. In addition, STP connections will be provided to MCIm as requested to support interconnection at either or both MCIm's STPs or switches to NYNEX's STPs.

12.1 Definition:

STPs provide functionality that enable the exchange of SS7 messages among and between switching elements, database elements and other signaling transfer points asagreed to by NYNEX and MCIm. Figure 4 depicts STPs and a variety of possible SS7 network connections.
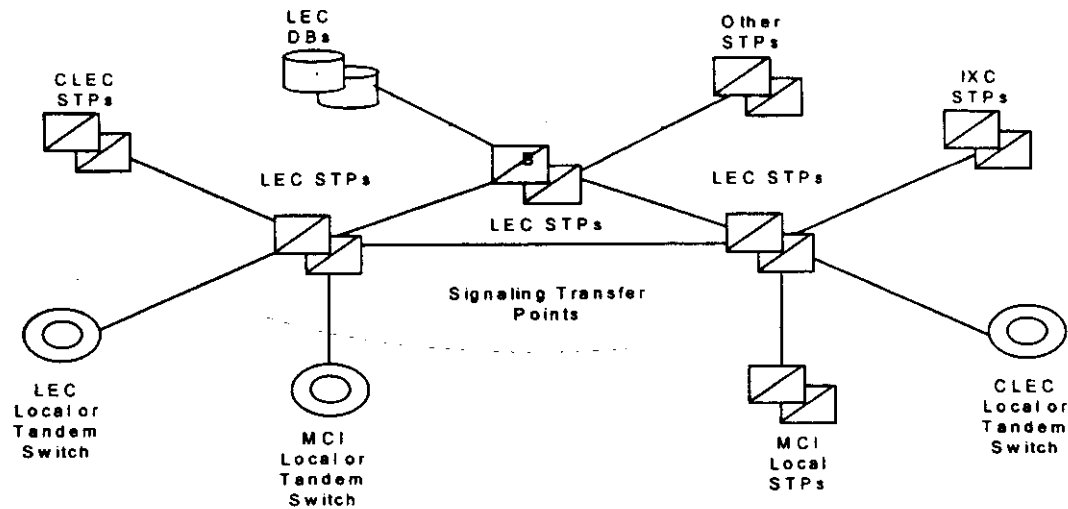
Figure 4

12.2 Technical and Interface Requirement

STPs shall be equal to or better than all of the requirements for STPs identified in the technical references set forth in Section 18.11.

12.3 Technical Requirements

12.3.1 STPs shall provide SS7 Signaling access to the other Network Nodes connected to the NYNEX SS7 network mutually agreed by NYNEX and MCIm (and to third Parties as applicable) for the purposes mutually agreed by NYNEX and MCIm (and third Parties as applicable). These may include:

12.3.1.1 NYNEX Local Switching or Tandem Switching;

12.3.1.2 NYNEX Service Control Points/Databases;

12.3.1.3 Third-party local or tandem switching systems; and

12.3.1.4 Third-party-provided STPs.

12.3.2 The connectivity provided by STPs shall fully support the relevant functions of the other Network Nodes connected to NYNEX's SS7 network to the extent mutually agreed by NYNEX, MCIm and third parties as applicable. This includes the use of NYNEX's SS7 network to convey messages which neither originate nor terminate at a signaling end point directly connected to the NYNEX

MCIm-NYNEX NEW YORK INTERCONNECTION AGREEMENT　　　　**III - 34**
(Last Revised 12/17/98: Amendment Number 2)

SS7 network (i.e., transit messages such as those that would pass through a NYNEX STP in conjunction with NYNEX tandem transit service used in connection with completion of calls between MCIm and another CLEC's customers). When the NYNEX SS7 network is used to convey transit messages, there shall be no alteration of the ISDNUP or TCAP user data that constitutes the content of the message.

12.3.3 If a NYNEX tandem switch routes calling traffic, based on dialed or translated digits, on SS7 trunks between an MCIm local switch and third party local switch, NYNEX's SS7 network shall convey the TCAP messages that are necessary to provide Call Management features (Automatic Callback and Automatic Recall) between the MCIm local STPs and the STPs that provide connectivity with the third party local switch, even if the third party local switch is not directly connected to NYNEX's STPs.

12.3.4 STPs shall provide all of the technically feasible functions as supported by the type of equipment and as deployed by NYNEX in its network of the MTP as specified in ANSI T1.111 (Reference Section 18.11). This may include:

12.3.4.1 Signaling Data Link functions, as specified in ANSI T1.111.2;

12.3.4.2 Signaling Link functions, as specified in ANSI T1.111.3; and

12.3.4.3 Signaling Network Management functions, as specified in ANSI T1.111.4.

12.3.5 Wherever technically feasible and supported by the particular STP type and vintage deployed in the NYNEX network, STPs shall provide all functions of the SCCP as mutually agreed by the Parties, as specified in ANSI T1.112 (Reference Section 18.11).

12.3.6 In cases where the destination signaling point is a NYNEX local or tandem switching system or database, or is an MCIm or third party local or tandem switching system directly connected to NYNEX's SS7 network, NYNEX STPs shall if necessary perform final GTT of messages to the destination and SCCP Subsystem Management of the destination. In all other cases of services offered to MCIm, STPs shall, if necessary, perform intermediate GTT of messages to a gateway pair of STPs in an SS7 network connected with the NYNEX SS7 network, and shall not perform SCCP Subsystem Management of the destination.

12.3.7 When and if the capability to route SCCP messages based on ISNI as specified in ANSI T1.118 (Reference Section 18.11) is deployed on interconnecting NYNEX STPs, NYNEX shall in good faith negotiate the performance of that function with MCIm.

12.3.8 When and if OAM&P capabilities of MRVT and SRVT are deployed on interconnecting NYNEX STPs, NYNEX shall in good faith negotiate the internetwork application of these capabilities with MCIm.

12.3.9 STPs shall be designed to meet the following performance requirements if technically feasible and consistent with the deployed architecture and equipment to provide MCIm with operational parity to NYNEX's own STP performance in the network:

> 12.3.9.1 MTP Performance, as specified in ANSI T1.111.6; and

> 12.3.9.2 SCCP Performance, as specified in ANSI T1.112.5.

12.4 Interface Requirements

12.4.1 As requested by MCIm, NYNEX shall provide an A-link interface from MCIm local switching systems to connect MCIm or MCIm-designated local switching systems or STPs to the NYNEX SS7 network.

12.4.2 If requested by MCIm, each type of interface shall be provided by one or more sets (layers) of signaling links, as follows:

> 12.4.2.1 An A-link layer shall consist of two links, as depicted in Figure 6.
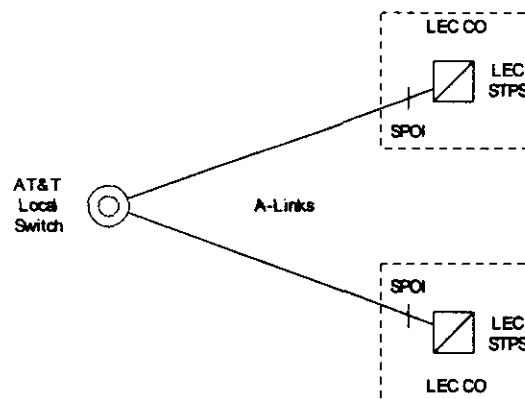

Figure 6. A-Link Interface

12.4.3 SPOI for each link shall be located at a cross-connect element, such as a DSX-1, in a mutually agreeable location such as the MCIm central office where MCIm's switch is located or the Central Offices where the NYNEX STPs are located. There shall be a DS1 or higher rate transport interface at each of the SPOIs. Each signaling link shall appear as a DS0 channel within the DS1 or higher rate interface.

MCIm-NYNEX NEW YORK INTERCONNECTION AGREEMENT   **III - 36**
(Last Revised 12/17/98: Amendment Number 2)

12.4.4 Where technically feasible, NYNEX will, in support of mutually agreed-to services, provide the same capabilities identified in the following requirements (Sections 12.4.4.1 and 12.4.4.2) as it does for itself:

12.4.4.1 Bellcore GR-905-CORE, CCSNIS Supporting Network Interconnection, MTP, and ISDNUP; and

12.4.4.2 Bellcore GR-1432-CORE, CCSNIS Supporting SCCP and TCAP.

12.5 Message Screening

12.5.1 In support of mutually agreed-to services, which agreement will be withheld by NYNEX only in the event of technical infeasibility, NYNEX shall set message screening parameters so as to accept and deliver messages appropriate for those services to and from MCIm local or tandem switching systems destined to and originated from any signaling point in or connected to the NYNEX SS7 network with which the MCIm switching system has a legitimate signaling requirement.

Section 13 Service Control Points/Databases

13.1 Definition:

13.1.1 Databases as used herein are the Network Elements that provide the functionality for storage of, access to, and manipulation of information required to provide a particular service and/or capability. Databases include, but are not limited to: Number Portability, LIDB, Toll Free Number Database, Automatic Location Identification/Data Management System and AIN. It is understood that not all of these databases are deployed in the NYNEX network and that some may not be deployed by NYNEX. Specifically, the number portability database may be provided by an independent administrator which would be accessed by MCIm and NYNEX on an as needed basis.

13.1.2 A SCP is a specific type of Database Network Element functionality deployed in a SS7 network that executes service application logic in response to SS7 queries sent to it by a switching system also connected to the SS7 network. SCPs may also utilize operational interfaces to allow for provisioning, administration and maintenance of subscriber data and service application data (e.g., an 800 database stores subscriber record data that provides information necessary to route 800 calls).

13.2 Technical Requirements for SCPs/Databases

Requirements for SCPs/Databases within this Section 13.2 address storage of information, access to information (e.g., signaling protocols, response times), and administration of information (e.g., provisioning, administration, and maintenance. Signaling access to services provided on the databases described in Section 13.1 are to be considered on a case-by-case basis and the services are offered on an as-is basis using reasonable care. To the extent MCIm utilizes the same switching platforms and software as NYNEX, it is anticipated that the services will work as they do for NYNEX's users. It is expected that under the stated conditions the applicable and relevant requirements should be met, except where any such requirement is superseded by a specific requirement set forth in Sections 13.3 through 13.7; provided that such new requirement will not apply to equipment deployed in the NYNEX network as of the Effective Date.

13.2.1 NYNEX shall provide signaling interconnection to SCPs through the SS7 network and protocols, as specified in Section 12 of this Attachment III, with TCAP as the application layer protocol.

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13.2.3 The reliability of interconnection options shall be consistent with requirements for diversity and survivability as specified in Section 12 of this Attachment III (which applies to SS7).

13.2.4 NYNEX shall provide MCIm access to information contained in NYNEX Operating Support Systems (OSS) to enable MCIm to perform the same functions at the same level of quality as NYNEX personnel. Access to this OSS information will be provided to MCIm during the same hours that it is available to NYNEX personnel.

13.2.5 NYNEX shall provide Database provisioning consistent with the provisioning requirements of this Agreement (e.g., data required, edits, acknowledgments, data format and transmission medium and notification of order completion).

13.2.6 NYNEX shall provide MCIm access to information contained in NYNEX Operating Support Systems (OSS) to enable MCIm to perform the same functions at the same level of quality as NYNEX personnel. Access to this OSS information will be provided to MCIm during the same hours that it is available to NYNEX personnel.

13.2.7 NYNEX shall provide database maintenance and administration on behalf of MCIm in parity with NYNEX's own database operational performance.

13.3 **Number Portability Database**

13.3.1 **Definition:**

When deployed, it is expected that a Number Portability (NP) database will store and provide access to routing numbers for calls involving numbers that have been ported from one local service provider to another within the same geographic location. NP functionality may also include GTT for calls involving ported numbers. This Section 13.3 supplements the requirements of Sections 13.2 and 13.7. If NYNEX elects to provide a number portability database for its own use, and at such time as NYNEX deploys the number portability translation function and the Global Title routing service associated with NP, NYNEX will negotiate will MCIm regarding the following:

13.3.1.1 When and if such a database deployment is available or imminent, NYNEX will negotiate with MCIm the necessary details regarding the capability to launch NP queries to the NYNEX NP function. The capabilities to be negotiated will include both NP query - response and GTT routing, and the capability to query numbers regardless of whether they reside within an NPA-NNX open to number portability; and

13.3.1.2 Query responses that may provide such additional information, for example, Service Provider identification, as may be specified in the NP implementation in the relevant regulatory jurisdiction.

13.3.2 **Requirements**

13.3.2.1 NP facilities, if deployed by NYNEX, shall provide such other functionality as specified in the regulatory jurisdiction in which portability has been implemented; and

13.3.2.2 If NYNEX deploys NP facilities, NYNEX shall make available the NP database query functions and GTT applications at parity with that provided to NYNEX for all switches querying the same STPs.

13.4 **LIDB**

This Section 13.4 defines and sets forth additional requirements for the LIDB. This Section 13.4 supplements the requirements of Section 13.2 and 13.7.

13.4.1 **Definition:**

The LIDB is a transaction-oriented database accessible through CCS networks. It contains records associated with subscriber line numbers and special billing numbers. LIDB accepts queries from other Network Elements, or MCIm's network, and provides appropriate responses. The query originator need not be the owner of LIDB data. LIDB queries include functions such as screening billed

numbers that provides the ability to accept Collect or Third Number Billing calls and validation of TLN based non-proprietary calling cards. The interface for the LIDB functionality is the interface between the NYNEX CCS network and other CCS networks. LIDB also interfaces to administrative systems. The administrative system interface provides Work Centers with an interface to LIDB for functions such as provisioning, auditing of data, access to LIDB measurements and reports.

13.4.2 Technical Requirements

13.4.2.1 Prior to the availability of a long-term solution for Number Portability, NYNEX shall enable MCIm to store in NYNEX's LIDB any subscriber line number or special billing number record, whether ported or not, for which the NPA-NXX or group is supported by that LIDB. NYNEX will not be required to make available to MCIm the use of NXX-0/1XX Group until NYNEX deploys the same capabilities for itself in its network.

13.4.2.2 Prior to the availability of a long-term solution for Number Portability, NYNEX shall enable MCIm to store in NYNEX's LIDB any subscriber line number or special billing number record, and NPA-NXX Group Records, belonging to an NPA-NXX owned by MCIm for which the NPA-NXX is supported by that LIDB. In such case, NYNEX will provide Final GTT for such codes to the NYNEX LIDB. MCIm would be expected to notify companies with which it has business arrangements of the location of such records. MCIm would also be expected to negotiate with NYNEX any restrictions it wishes to place on the access of such records.

13.4.2.4 NYNEX shall perform the following LIDB functions for MCIm's subscriber records in LIDB:

13.4.2.4.1 BNS (provides information such as whether the billed number may accept collect or third number billing calls); and

13.4.2.4.2 Calling Card Validation.

13.4.2.5 NYNEX shall process MCIm's subscriber records in LIDB at least at parity with NYNEX subscriber records, with respect to other LIDB functions.

13.4.2.6 Within thirty (30) days after receiving a request by MCIm, NYNEX shall provide MCIm with a list of the subscriber data items which MCIm would have to provide in order to support each required LIDB function. The list shall indicate which data items are essential to LIDB function and which are required only to support certain services. For each

data item, the list shall show the data formats, the acceptable values of the data item and the meaning of those values.

13.4.2.7 NYNEX shall provide LIDB systems for which operating deficiencies that would not result in calls being blocked shall not exceed thirty (30) minutes per year.

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13.4.2.10 NYNEX shall provide MCIm with the capability to provision (e.g., to add, update, and delete) NPA-NXX Group Records, and Line number and special billing number records, associated with MCIm subscribers, into NYNEX's LIDB provisioning process. NYNEX will build the group records.

13.4.2.11 Unless directed otherwise by MCIm, in the event that end user subscribers change their local service provider, NYNEX shall maintain subscriber data so that such subscribers shall not experience any interruption of service due to the lack of such maintenance of subscriber data subject to contractual arrangements with other carriers from whom such subscribers obtain service.

13.4.2.12 All additions, updates and deletions of MCIm data to the LIDB shall be solely at the direction of MCIm subject to contractual arrangements with other carriers from whom such subscribers obtain service.

13.4.2.13 NYNEX shall provide priority updates to LIDB for MCIm data upon MCIm's request (e.g., to support fraud protection) in accordance with NYNEX procedures relative to fraud protection.

13.4.2.14 NYNEX shall provide MCIm the capability to obtain, through an electronic interface, reports as requested and defined by MCIm of all MCIm data in LIDB where such reports are similarly available to NYNEX itself and where the preparation of such reports does not interfere with the processing capacity of the LIDB server.

13.4.2.15 NYNEX shall provide LIDB systems such that no more than 0.01% of MCIm subscriber records will be missing from LIDB, as measured by MCIm audits.

13.4.2.16 NYNEX shall, where such requests do not impair the performance of the LIDB facility, perform backup and recovery of all of

MCIm's data in LIDB as frequently as MCIm may reasonably specify, including sending to LIDB all changes made since the date of the most recent backup copy. Where such frequency is greater than that NYNEX provides to itself, MCIm will reimburse NYNEX for the reasonable cost of the effort needed to fulfill the request.

13.4.2.17 NYNEX shall provide to MCIm access to LIDB measurements and reports at least at parity with the capability NYNEX has for its own subscriber records and that NYNEX provides to any other party. Such access shall be in electronic format.

13.4.2.18 NYNEX shall provide MCIm with LIDB reports of data which are missing or contain errors, as well as any misroute errors, within the time period reasonably requested by MCIm.

13.4.2.19 NYNEX shall prevent any access to or use of MCIm data in LIDB by NYNEX personnel or by any other party that is not authorized by MCIm in writing unless required to do so by competent legal authority.

13.4.2.21 NYNEX shall accept queries to LIDB associated with MCIm subscriber records, and shall return responses in accordance with the requirements of this Section 13.

13.4.2.22 NYNEX shall provide mean processing time and other similar performance criteria at the LIDB under normal conditions as defined in the relevant and applicable requirements listed under Section 18.12 at parity to that which NYNEX provides to itself.

13.4.3 Interface Requirements

NYNEX shall offer LIDB access in accordance with the relevant and applicable requirements of Section 18.12 to the extent such equipment is deployed in the NYNEX network. In addition, Global Title Translation shall be maintained in the signaling network in order to support signaling network routing to the LIDB.

13.5 Toll Free Number Database

The Toll Free Number Database is a SCP that provides functionality necessary for toll free (e.g., 800 and 888) number services by providing routing information and additional vertical features during call set-up in response to queries from SSPs. This Section 13.5 supplements the requirements of Sections 13.2 and 13.7. NYNEX shall provide the Toll Free Number Database in accordance with the following requirements:

13.5.1 Technical Requirements

13.5.1.1 NYNEX shall make the NYNEX Toll Free Number Database available for MCIm to query from MCIm's designated switch including NYNEX unbundled local switching, with a toll-free number and originating information.

13.5.1.2 The Toll Free Number Database shall return carrier identification and, where applicable, the queried toll free number, translated numbers and instructions as it would in response to a query from a NYNEX switch.

13.5.1.3 The SCP shall also provide such additional features as described in SR-TSV-002275 (BOC Notes on the NYNEX Networks, SR-TSV-002275, Issue 2, (Bellcore, April 1994)) subject to mutual agreement of the Parties as are available to NYNEX. These features may include, but are not limited to:

13.5.1.3.1 Network Management;

13.5.1.3.2 Subscriber Sample Collection; and

13.5.1.3.3 Service Maintenance.

13.5.2 Interface Requirements

The signaling interface between the MCIm or other local switch and the Toll-Free Number database shall use the TCAP protocol as specified in the technical reference, together with the signaling network interface as specified in the technical reference in Section 18.12.

13.6 SCPs/Databases shall be equal to or better than all of the requirements for SCPs/Databases set forth in Section 18.12.

13.7 AIN Unbundled Access, SCE/SMS AIN Access

13.7.1 NYNEX shall provide unbundled access to all NYNEX service applications resident in NYNEX's SCP which are tariffed by NYNEX. Such access may be from MCIm's switch or NYNEX's unbundled local switch.

13.7.2 Unbundled SCE/SMS AIN access shall provide MCIm the ability to create service applications using the same methods and in the same manner as available to NYNEX in the NYNEX SCE/SMS and deploy those applications via the NYNEX SMS to the NYNEX SCP. This interconnection arrangement shall provide MCIm access to the NYNEX development environment and administrative system in a manner at parity with NYNEX's ability to deliver its own AIN-based services. Unbundled SCE/SMS AIN access provides the capability to develop service applications within the NYNEX service creation

environment, and deployment of service applications via the NYNEX service management system. See Figure 7 below.
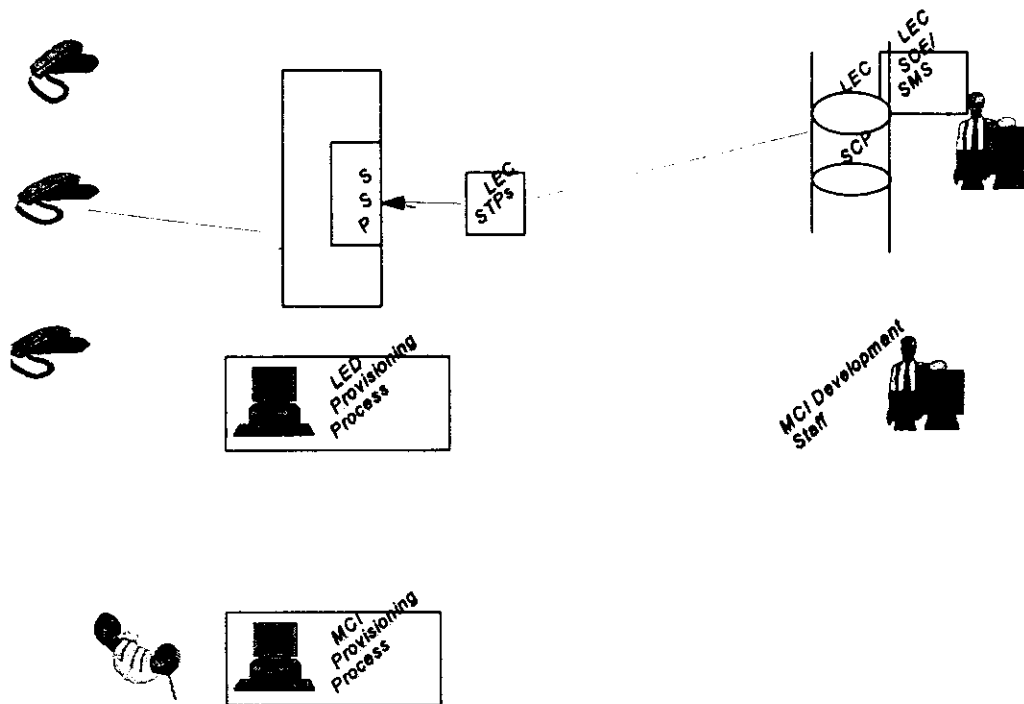

Figure 7

13.7.3 NYNEX shall make SCE/SMS hardware, software, testing and technical support (e.g., help desk, system administrator) resources available to MCIm. Scheduling of SMS resources shall allow MCIm equal priority to NYNEX.

13.7.4 The NYNEX SCE/SMS shall allow for multi-user access with proper source code management and other logical security functions as specified by NYNEX.

13.7.5 The NYNEX SCP shall partition and protect MCIm service logic and data from unauthorized access, execution or other types of compromise.

13.7.6 NYNEX shall provide documentation and technical support of MCIm development staff at parity with that provided to NYNEX's own development staff.

13.7.7 When MCIm selects unbundled SCE/SMS AIN access, NYNEX shall provide for a secure, controlled access environment on-site as well as via remote data connections (e.g., dial up, LAN, WAN).

Section 14 Unbundled Tandem Switching

14.1 Definition:

The tandem switch Network Element provides the switching function needed to establish a temporary transmission path between two switching offices including, but not limited to, those end offices in the networks of CLECs, NYNEX, independent telephone companies, IECs and wireless carriers.

14.2 Technical Requirements

14.2.1 Unbundled Tandem Switching shall have the same or equivalent capabilities as those described in Bell Communications Research TR-TSY-000540 Issue 2R2, Tandem Supplement, 6/I/90. The requirements for Tandem Switching include, but are not limited to, the following:

14.2.1.1 Unbundled tandem switching shall provide signaling to establish a tandem connection;

14.2.1.2 Unbundled tandem switching shall provide screening and routing as mutually agreed to by the Parties;

14.2.1.3 Unbundled tandem switching shall provide recording of all billable events as mutually agreed to by the Parties;

14.2.1.4 Unbundled tandem switching shall provide AIN triggers supporting AIN features as deployed within the NYNEX network;

14.2.1.5 Unbundled tandem switching shall, where it is technically feasible for tandems to do so as deployed in the NYNEX network, provide connectivity to Operator Systems as requested by MCIm. It is understood that at the present time, NYNEX's tandem switches are not equipped to forward some of the protocols required for Operator Services;

14.2.1.6 Unbundled tandem switching shall provide access to toll free number portability database where requested by MCIm;

14.2.1.7 Unbundled tandem switching shall provide all trunk interconnections discussed under the "Network Interconnection" section (e.g., SS7, MF, DTMF, Dial Pulse, PRI-ISDN);

14.2.1.8 Unbundled tandem switching shall provide connectivity to PSAPs where 911 solutions are deployed at those specific switches equipped by NYNEX for that purpose; and